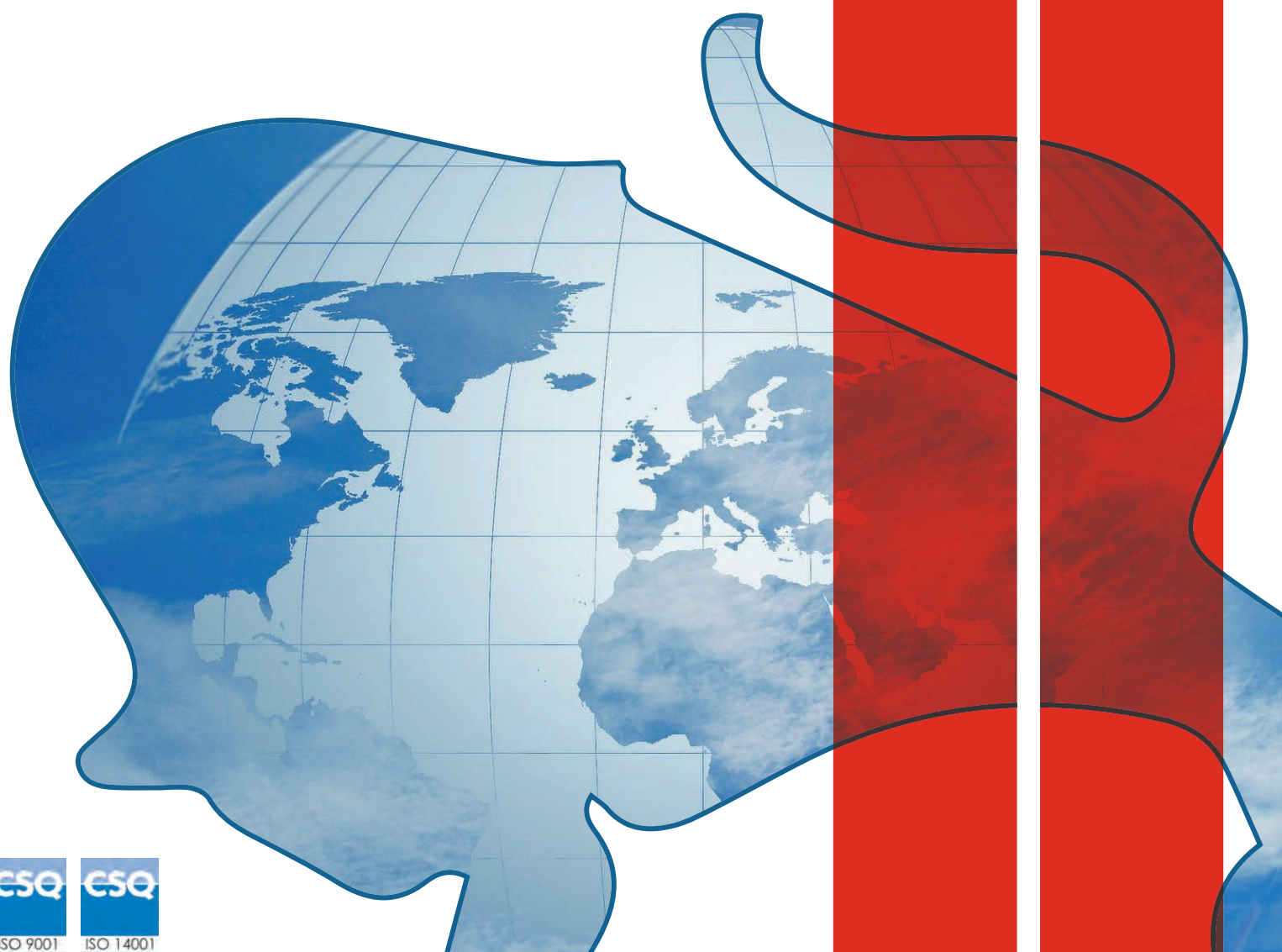


FOR.TEC SRL



INCINERATORS MANUFACTURER

TECHNOLOGY AT THE SERVICE OF THE ENVIRONMENT



COMPANY PROFILE

For.Tec. Forniture Tecnologiche S.r.l. is an Italian Company with 40 years of experience designing, manufacturing, selling and installing high-tech ecologic plants: our daily efforts, researches, studies and tests are directed towards the development of perfect solutions to all the problems arising from waste management.

Thanks to detailed engineering studies and skilled technicians' collaboration, we can offer a full range of incinerators for almost every type of waste, sophisticated crematories and new concept industrial ovens.

The company comprises 2000 m2 production indoor area and more than 5000 m2 outdoor area and it is divided into departments as follows:

- **GENERAL DIRECTION**
- **ADMINISTRATIVE DEPARTMENT**
- **SALES DEPARTMENT:** specialized sellers in incineration field give customers answers to all their doubts, they are ready to advise the most proper model of incinerator according to demand, they manage after-sales service and remote assistance. This department has a very efficient Export Office which handles an extensive dealer network and exports For.Tec. products in many Countries worldwide.
- **ENGINEERING DEPARTMENT:** a close-knit team of engineers and architects daily performs, with great professionalism, analysis of customers' specifications, feasibility studies, customized designs and tests; thanks to the collaboration with the Department of Civil and Mechanical Engineering of University of Cassino and Southern Lazio, we constantly develop new technologies to improve waste treatment solutions.
- **PRODUCTION DEPARTMENT:** skilled and experienced technicians implement projects and build up our incinerators and equipments with great attention to details, ensuring high level of security, high quality and shortest delivery times.



We strive to fulfill each customer's needs:

we give the chance to **customize plants** with many optional equipments, such as automatic loading and deashing systems, wet scrubbers, dry depuration systems, heat recovery systems for hot water/hot-cold air/steam production and pollution control systems.

Our products are all fully CE Certified,
our quality is **100% Made in Italy** and
our incinerators are manufactured in
compliance with the most restrictive
construction, health and safety and
environmental regulations.





TECHNOLOGY

For.Tec software for incineration process control and management, makes the working cycles completely automated and continuously optimized.



DESIGN

The conformation of the chambers is designed to have an excellent thermo-fluid dynamic yield, avoiding the formation of preferential lanes for the process gases and favoring turbulent motion.



ENVIRONMENT

The emissions abatement system installed on these plants represents the best technology available for the elimination of pollutants.

From our great experience in the incineration field, from our careful market studies and the continuous updates of our research and development department, the Ecotec range of incinerators is born and it represents a perfect synthesis of the quality of For.Tec products and the technological innovations of the sector.

Ecotec ovens are designed for the incineration of waste with medium-high PCI: they are particularly suitable for the definitive elimination of hazardous, hospital, medical and laboratory waste, industrial waste, municipal waste and waste deriving from shopping centers, airports and very crowded places.

The Ecotec range depicts the starting point for the development of complex, technologically advanced and completely dedicated to GREEN TECHNOLOGY systems. In combination with these incinerators it is possible to install:

- Complete "dry" pollutant abatement systems, which together with the post-combustion chamber supplied as standard on each furnace, will make the emissions deriving from the incineration of any type of waste, even the most difficult to treat, fully compliant with more restrictive anti-pollution regulations both in Europe and in the world.
- Effective systems of energy recovery from combustion gases, which make it possible, at no cost, to produce domestic hot water, steam or superheated diathermic oil to be used to meet company needs.
- Optional dedicated instrumentation and a specific "MULTISTEP" technology, which allow waste loading, incineration and ash discharge to take place automatically and continuously, thus leading to a reduction in working times and costs and to a 24-hour processing.

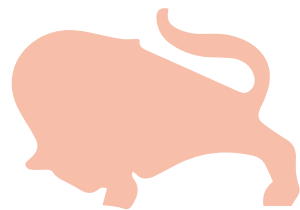
Each ECOTEC incinerator is equipped with a thermal afterburner built in full compliance with the most restrictive anti-pollution regulations; it guarantees the following operating parameters:

- **Operating temperature: $>850^{\circ}\text{C}$ / $>1100^{\circ}\text{C}$ depending on the category of treated waste**
- **Gas residence time: $>2''$**
- **Free oxygen content: $>6\%$**



The ECOTEC series includes incinerators of different sizes and capacities, up to a maximum capacity of 1000 kg/h; these ovens were designed to be installed in several units that work together, in order to satisfy greater disposal needs. Thanks to the sophisticated PLCs they are equipped with, it is possible to have full control at any time, even remotely, of the entire incineration process in Ecotec plants.

ECOTEC



ECOTEC

	U.M.	550	1500	2500	5000	6000 multi	8000	10000	12000 multi	15000 multi
Volume	mc	0,55	1,5	2,5	5	6	8	10	12	15
Burning capacity	kg/h	≤ 40	≤ 100	≤ 150	≤ 300	≤ 400	≤ 450	≤ 500	≤ 750	≤ 850
Loading capacity	kg/cycle	70	200	300	600	Only continuous loading	1000	1250	Only continuous loading	Only continuous loading

* Only indicative and non-binding data, they may change, also significantly, according to the exact composition of the loaded waste

EXCE OS

	U.M.	4	8	12	25	35	50	100
Volume	mc	0,4	0,8	1,2	2,5	3,5	5	10
Burning capacity	kg/h	≤ 25	≤ 50	≤ 100	≤ 200	≤ 250	≤ 300	≤ 500
Loading capacity	kg/cycle	60	120	180	375	525	750	1500

* Only indicative and non-binding data, they may change, also significantly, according to the exact composition of the loaded waste

ROTOMAC

	U.M.	1000	1500	2500	4000	6000	12000	15000	18000
Volume	mc	0,9	1,5	2,5	4	6	12	15	18
Burning capacity	Kg/h	≤ 100	≤ 150	≤ 200	≤ 350	≤ 500	≤ 650	≤ 750	≤ 1000
Loading capacity	Kg/cycle	200/350	300/500	500/900	850/1500	1350/2500	Continuous	Continuous	Continuous

* Only indicative and non-binding data, they may change, also significantly, according to the exact composition of the loaded waste

EXCE AN

	U.M.	4	8	12	25	35	50	100
Volume	mc	0,4	0,8	1,2	2,5	3,5	5	10
Burning capacity	kg/h	≤ 50	≤ 100	≤ 150	≤ 250	≤ 300	≤ 350	≤ 500
Loading capacity	kg/cycle	≤ 120	≤ 240	≤ 360	≤ 750	≤ 1050	≤ 1500	≤ 3000

* Only indicative and non-binding data, they may change, also significantly, according to the exact composition of the loaded waste

T-BULL

Incineration chamber volume	m³	12,17	Maximum potential of incineration burners	Kw	190 x 6
Loading volume in incineration chamber	m³	7,30	Post-combustion chamber burners	no.	2
Burning Capacity	Kg/h	up to 1000*	Maximum potential of post-combustion burners	Kw	319 x 2
Door's opening dimensions	mm	3900 x 1920	Indicative consumption of Diesel	l/h	60
Incineration chamber's dimensions	mm	3900 (Length) 1920 (Width) 1550 (Height 1) 1700 (Height 2)	Electric consumption	kW	2
Incineration chamber burners	no.	6	Power supply	Type	230v 50Hz
			Total weight	Tons	21

FD 4.0

	U.M.	4.0
Volume	mc	0,80
Burning capacity	kg/h	<50 (classified as a low-capacity installation)
Loading capacity	kg/cycle	≤150
Fuel	type	Diesel/Natural gas/Lpg
Maximum total power of installed burners	Kw	490 (vers. Diesel) 475 (vers. Natural gas/Lpg)
Reference Standards	-	Regulation EU 142/2011 and Regulation EU 1069/2009

* Only indicative and non-binding data, they may change, also significantly, according to the exact composition of the loaded waste

FIDO 550

	U.M.	550
Volume	mc	0,57
Burning capacity	kg/h	≤40 (classified as a low-capacity installation)
Loading capacity	kg/cycle	120
Fuel	type	Diesel/Natural gas/Lpg
Maximum total power of installed burners	Kw	380 (vers. Diesel) 350 (vers. Natural gas/Lpg)
Reference Standards	-	Regulation EU 142/2011 and Regulation EU 1069/2009

* Only indicative and non-binding data, they may change, also significantly, according to the exact composition of the loaded waste

TR PYROLYTIC

	U.M.	2000 OR	5000 OR	12000 OR	20000 OR	2000 VR	5000 VR	8000 VR	12000 VR
Useful Volume	Mc	2	5,3	12,1	20,7	2,1	5,5	7,6	12
Internal Dimensions	mm	1000	1400	1600	2000	1200	1300	1500	2000
HxWxL		2000	2400	3600	4500	1200	2000	2200	2400
		1000	1600	2100	2300	1400	2100	2300	2500
Paint treatment capacity	kg/h	15	35	50	80	15	35	40	55
Loading capacity	Kg	320	550	700	850	320	550	650	700

* Only indicative and non-binding data, they may change, also significantly, according to the exact composition of the loaded material

FUMES DEPURATION SYSTEMS

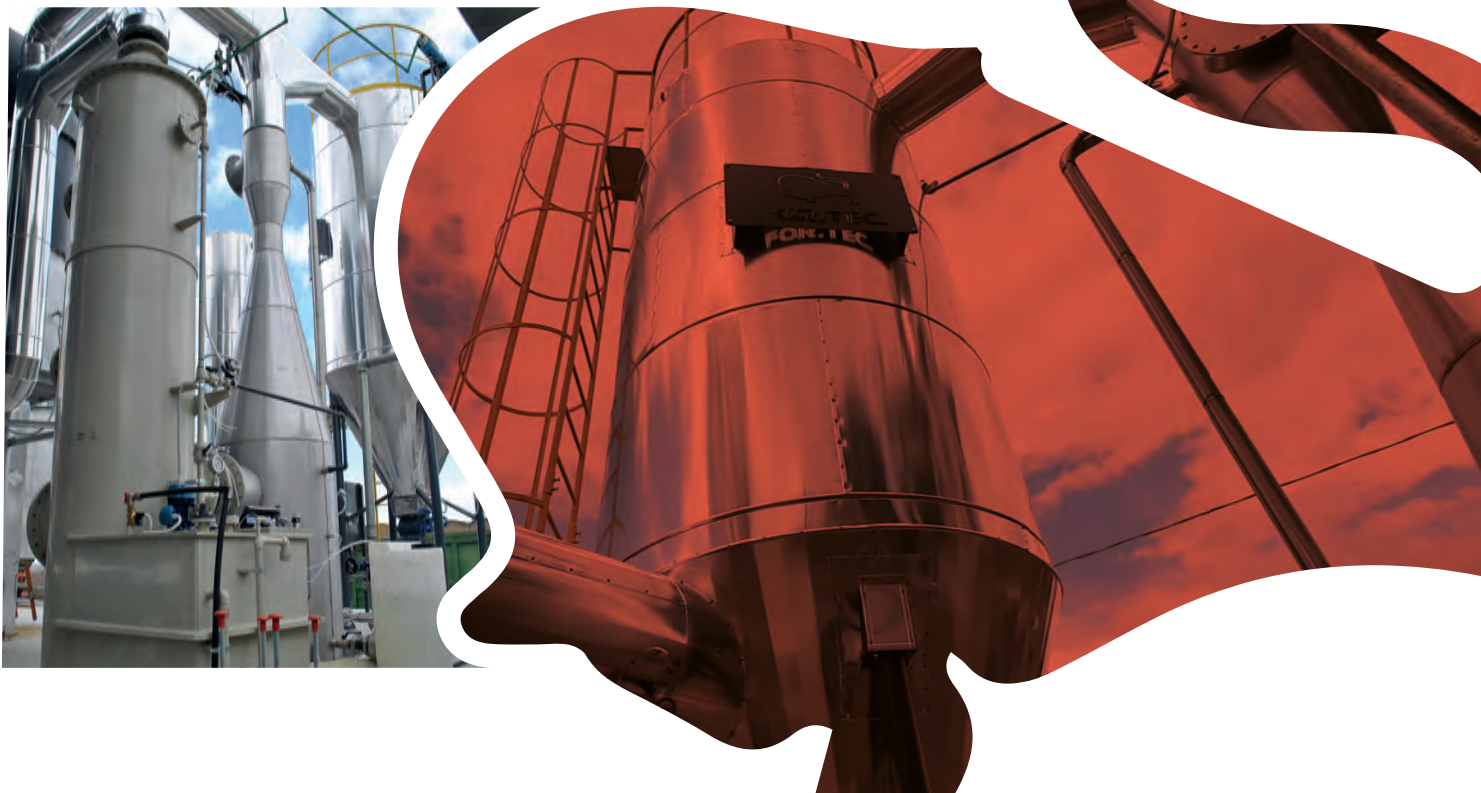
DRY DEPURATION SYSTEM

Thanks to careful design, continuous research and great care in the construction, the "dry" emission abatement system installed on our plants is a cutting-edge instrumentation for pollution control, allowing compliance with the more restrictive European and World regulations.



The abatement process, which acts directly and effectively on each individual pollutant, consists of the following steps:

- 1.** Thermal afterburner for the abatement by oxidation of the VOCs present in the fumes, operating at temperatures of over 850/1100°C in the presence of an excess of air at 6%.
- 2.** Cooling of gas temperatures up to 180°C for the subsequent abatement phases, carried out by means of a fume/water, fume/air or fume/diathermic oil heat exchanger, according to the different application needs.
- 3.** Injection into the gas stream of ventilated powder of lime hydrate for the abatement, by absorption, of fluorine compounds (transformed into calcium fluorides CaF_2) and sulphur compounds (transformed into calcium sulphates CaSO_4); the lime hydrate also absorbs hydrofluoric acid (HF), and produces an effect on hydrochloric acid (HCl) directly proportional to the higher humidity of the environment.
- 4.** Injection into the gas stream of activated carbon powder, in order to prevent the formation of dioxins and furans. The activated carbon dust retains these pollutants by adsorption, guaranteeing yields up to 95%. A mix of hydrated lime and active carbon powder at 20/25% can be found on the market with the name of Sorbalite ®
- 5.** Dedusting by bag filtration, which is able to guarantee an excellent and easy performance on the abatement of dust; our filtration system guarantees dust emission standards <5 mg/mc
- 6.** Washing of the fumes by means of a wet scrubber which guarantees an excellent reduction of water-soluble substances such as HCL, HF and SO₂.



DRY DEPURATION SYSTEM

FUMES DEPURATION SYSTEMS

WET SCRUBBER

One of the leading products of For.Tec brand in the campaign to protect the environment strenuously conducted by the company, is the WET SCRUBBER system for wet abatement of effluent dust in the atmosphere. This system consists of scrubber connected by a duct, which is internally lined with refractory material, at the outlet of the effluent gases from the post-combustion chamber of For.Tec ovens.

The purification of the powders takes place through a curtain of water which, sprayed finely and at high pressure by means of special nozzles on the entire passage section, wets the fine powders contained in the effluent fumes, dragging them with it. The washing water, mixed with the aforementioned powders, precipitates into a settler, built with carbon steel sheet, and here, after having sedimented the impurities, it is put back into circulation by means of an electric pump which feeds the nozzles. At the bottom of said settler, which also acts as a storage tank for the washing water, the decanted sludge (a few tens of kg each year), thanks to a valve, is periodically discharged.



There are many strengths of our Wet Scrubber:

- The scrubber system is activated automatically when the incinerator is started and turns off at the end of the set cycle.
- Since the system is "closed cycle" there is no need to change the washing water. A float valve automatically replenishes only the few liters of water lost due to evaporation.
- In the event of anomalies or malfunctioning of the washing system, a special equipment reports the fact by means of an alarm, both visual and audible



WET SCRUBBER



Hundreds of customers in the world have chosen our ovens!

CUSTOMIZED SERVICES

- Feasibility studies
- Functional Layout
- Thermo fluid dynamics CFD simulations
- Assistance with authorization procedures
- Scheduled maintenance
- Remote assistance

QUALITY



Certified Company
Management System
ISO 9001:2015



Certified Company
Management System
ISO 14001:2015